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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/788,953

02/26/2004

Andre S. Chan

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07/27/2006

THOMAS R. BERTHOLD
18938 CONGRESS JUNCTION COURT
SARATOGA, CA 95070

EXAMINER

WATKO, JULIE ANNE

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/788,953

Applicant(s)

CHAN ET AL.

Examiner

Julie Anne Watko

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>02/26/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claim 3 is objected to because of the following informalities: Claim 3 lacks a period at its end. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Butt et al (US Pat. No. 7031104 B1).

As recited in claim 1, Butt et al show a data recording disk drive (see Figs. 6-7, for example) comprising: a housing 22; at least one disk 34 rotatable about an axis of rotation (see 51); a motor attached to the housing for rotating the disk; a plate 200 fixed to the housing, the plate extending circumferentially around a sector of the disk and radially across a radially outer annular region of the disk, the plate having a surface (see upward-facing surface of 200 in Fig. 7) facing a disk surface (see lower-facing surface of 34 in Fig. 7), the axial spacing between the plate's surface and the disk's surface varying (see 204) along the radial extent (horizontal extent in Fig. 7) of the plate.

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As recited in claim 2, Butt et al show that there is only one disk 34, wherein the housing includes a base 200, the motor 51 and disk 34 being mounted on the base, and wherein the plate is part of the base 200, whereby the base 200 has a surface facing the bottom surface of the disk.

As recited in claim 3, Butt et al show that there is only one disk 34, wherein the housing includes a base 200, the motor and disk being mounted on the base, and wherein the plate is part of the cover 100, whereby the cover has a surface (the surface shown in Fig. 5B, for example) facing the top surface of the disk 34.

4. Claims 4-5, 9, 14-15, 19 and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Yang et al (US Pat. No. 7064921 B1).

As recited in claim 4, Yang et al show a data recording disk drive 10 comprising: a housing (including 16 and 18); a rotatable stack of disks 20 axially spaced along a common axis of rotation (at center of 58); a motor 30 attached to the housing for rotating the disk stack; a plate 66 fixed to the housing and located between two axially adjacent disks 20, the plate extending circumferentially around a sector of the two disks and radially across a radially outer annular region of the two disks, the plate having a first surface facing a surface (22, for example) of a first disk and a second surface facing a surface (24, for example) of the second disk, the axial spacing between the plate's first surface and the surface of the first disk varying along the radial extent of the plate (see Fig. 3).

As recited in claim 5, Yang et al show a plurality of plates 66 (see Fig. 3), each plate being located between a different set of two axially adjacent disks 20.

As recited in claims 9 and 19, Yang et al teach a plurality of discrete surface features on at least one surface of a plate (“rib structures for mechanical strength characteristics or surface texturing”, see col. 5, lines 35-36).

As recited in claims 14 and 24, Yang et al teach at least one of the first and second surfaces of the plate is a section of a conical surface, whereby said axial spacing varies linearly along the radial extent of the plate (see Figs. 4-5; see also col. 5, lines 39-47, “radial dimensioning of the inner section 72 may be adjusted to any length for the desired taper”).

As recited in claim 15, Yang et al show a magnetic recording disk drive comprising: a housing; a rotatable stack of N hard disks 20 axially spaced along a common axis of rotation (at center of 58), where N is greater than 1 ($N=2$), each of the disks having a substantially planar surface (see Fig. 3); a motor attached to the housing for rotating the disk stack; $N-1$ ($2-1=1$) plates 66 fixed to the housing (note that the claim is written in open language, such that the presence of additional plates does not defeat anticipation), each plate located between a unique set of two axially adjacent disks 20, each plate extending circumferentially around a sector of its two associated disks and radially across a radially outer annular region of its two associated disks (see Fig. 2), each plate having a first substantially nonplanar surface (the taper is non-planar) facing a substantially planar surface of a first disk in its set and a second nonplanar surface (the taper is non-planar) facing a substantially planar surface of the second disk in its set.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 6-8, 10-13, 16-18 and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al (US Pat. No. 7064921 B1).

Yang et al show a drive as described above.

As recited in claim 6, Yang et al teach the use of ribs ("rib structures for mechanical strength characteristics or surface texturing", see col. 5, lines 35-36).

Yang et al are silent regarding the shapes, sizes and locations of ribs, grooves and surface features recited in claims 6-8, 10-13, 16-18 and 20-23.

There is no invention in changing the shape of known parts, when the functioning of the apparatus is not changed by the reshaping. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

There is no invention in relocating known parts, when the functioning of the apparatus is not changed by the relocation. In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950).

There is no invention in changing the size of known parts, absent a showing of criticality. Applicant has provided no evidence of unexpected results due to the claimed dimensions.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to arrive at the claimed dimensions, shapes and locations through the process of routine experimentation and optimization in the absence of criticality. The rationale is as follows: one of ordinary skill in the art would have been motivated to arrive at the claimed dimensions, shapes and locations while experimenting and optimizing in order to achieve surface texturing as taught by Yang et al (see col. 5, lines 35-36).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Machcha et al (US Pat. No. 6882501 B2) show data recording disk drive 700 comprising a housing (including 140); a rotatable stack of disks 110 axially spaced along a common axis of rotation; a motor 170 attached to the housing for rotating the disk stack; a plate 720 fixed to the housing and located between two axially adjacent disks, the plate 720 extending circumferentially around a sector of the two disks and radially across a radially outer annular region of the two disks (see Fig. 7A), the plate having a first (upper or lower) surface facing a surface of a first disk and a second (lower or upper) surface facing a surface of the second disk. In another embodiment, Machcha et al show the axial spacing between the plate's first surface and the surface of the first disk varying along the radial extent of the plate ("at least one comb ... can also have a thickness that increases from the comb inner diameter to the comb outer diameter", see col. 7, lines 33-35).

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Radman et al (US Pat. No. 4419704) show a Bernoulli plate for stabilization of flexible magnetic disk (see especially Figs. 2(b)-(c); see also col. 2, lines 39-41, "surface of the Bernoulli plate 16 should be broken up so that the disk 10 does not tend to cling to it").

Geyer et al (US Pat. No. 4447899) show an optical disc device wherein axial spacing between a plate's surface 34 and the disk's surface (see 13) varies along the radial extent of the plate (see especially Fig. 2 and Fig. 7).

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

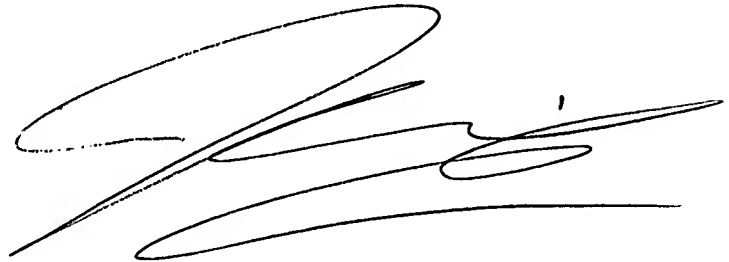
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie Anne Watko whose telephone number is (571) 272-7597. The examiner can normally be reached on Monday through Thursday, noon to 10PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne D. Bost can be reached on (571) 272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Julie Anne Watko, J.D.
Primary Examiner
Art Unit 2627

July 24, 2006
JAW

A handwritten signature in black ink, appearing to read 'Julie Anne Watko', with a stylized flourish at the end.